LETTER OF TRANSMITTAL

TETRA TECH NUS, Inc.
55 Jonspin Road
Wilmington, Massachusetts 01887
(978) 658-7899

C-NAVY-12-01-1529W

DATE: December 14, 2001 JOB NO.: N1679

TO: Foster Wheeler Environmental Corporation
2300 Lincoln Highway East
One Oxford Valley Suite 200
Langhorne PA 19047

ATTENTION: Tom Kelly

REGARDING: CLEAN Contract No. N62472-90-D-1298
CTO 172
Melville North Landfill
Naval Station Newport
Newport, Rhode Island

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:
☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change Order ☐ Submittals ☐ _____

COPIES	DATE	NUMBER	DESCRIPTION
1	08/1998		Copies of sections of Table 1-1 from Background Soil Investigation Draft Final Work Plan pertaining to Melville North Landfill background soil study sample location 1
1			Copies of pages from field notebook pages pertaining to abandoned sample location 1 for Melville North Landfill background soil study
1	11/1998		Copies of pages from Melville North Landfill Background Soil Investigation report pertaining to abandoned background soil study south of landfill and north of Weaver Cove

THESE ARE TRANSMITTED as checked below:
☐ For approval ☐ Approved as submitted ☐ Resubmit ___ copies for approval
☐ For your use ☐ Approved as noted ☐ Submit ____ copies for distribution
☒ As requested ☐ Return for corrections ☐ Return ____ corrected prints
☐ For review and comment ☐ Return loaned documents

REMARKS: As requested by Jim Shafer, EFA Northeast

COPY TO: File N7538 – 3.2 w/o enc.
J. Shafer, EFA Northeast w/ enc.

SIGNED: J.R. Forrelli
James R. Forrelli, P.E.

1437

	photographs support location as acceptable Historic use of this area is still being researched at this time
	No structure currently exists on Dyer Island Historic use of this island is still being researched at this time.
	This location requires access to private property. Location was hand augered on 7/10/98 and was confirmed as undisturbed Mk soil type

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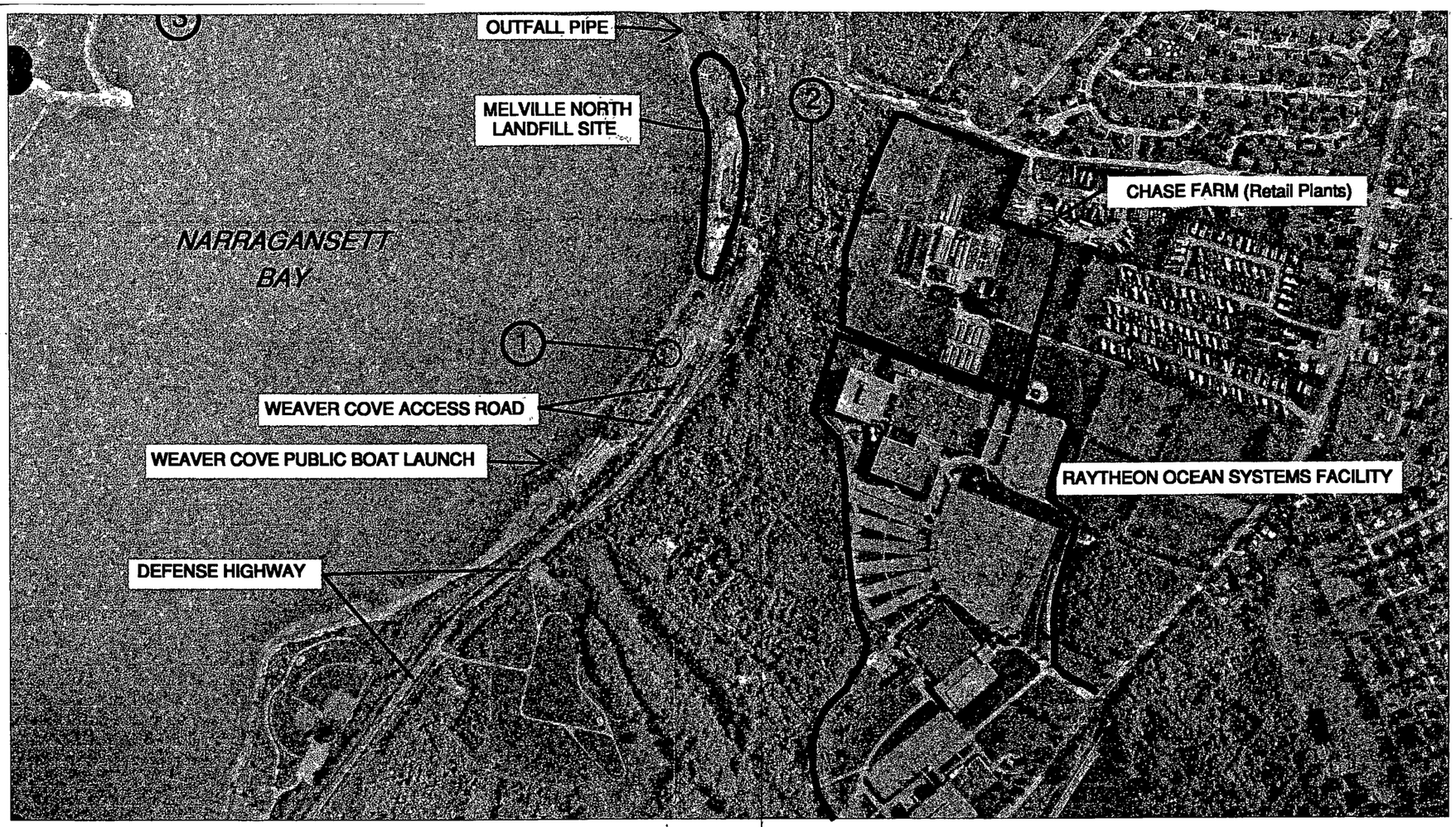

DRAWN BY: R.G. DEWSNAP	TITLE: BACKGROUND SOIL SAMPLING LOCATIONS DRAFT FINAL WORKPLAN – BACKGROUND SOIL INVESTIGATION MELVILLE NORTH LANDFILL PORTSMOUTH, RI		TETRA TECH NUS, INC.
PREPARED BY: J. PILLION			
CHECKED BY: J. FORRELLI	SOURCE: RIDEM DIVISION OF WATER RESOURCES – NARRAGANSETT BAY PROJECT		
	SCALE: NONE	DATE: AUGUST 5, 1998	PROJ. NO: 1679 CTO 172
PROJECT MANAGER: J. FORRELLI	DRAWING NO: 1–1	ACFILE NAME: \DWG\NETC\SOIL_INV.DWG	REV: 0
PROGRAM MANAGER: J. TREPANOWSKI			

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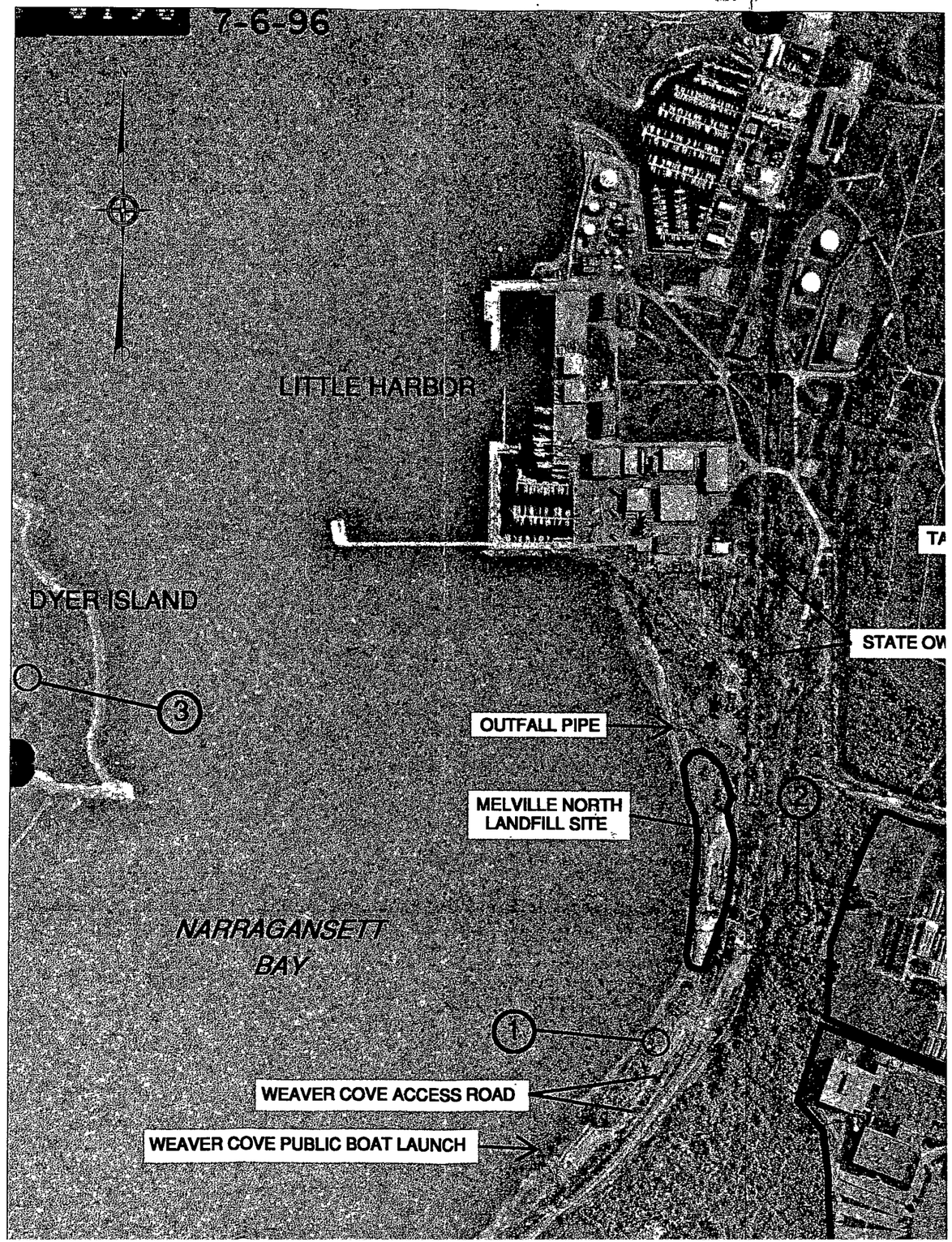
WILMINGTON, MASSACHUSETTS 01887
(978)658–7899

BACKGROUND SOIL SAMPLING LOCATIONS
MELVILLE NORTH LANDFILL SITE
PORTSMOUTH, RHODE ISLAND

Location On Drawing	SAMPLE LOCATION IDENTIFIER	SOIL TYPE	DESCRIPTION/MAP LOCATION	COMMENTS
1	Surface Samples: BKG-SS01-NeB-0005 through BKG-SS05-NeB-0005 Subsurface Samples: BKG-SS01-NeB-XXXX through BKG-SS05-NeB-XXXX	Newport Silt Loam (NeB) - 3 to 8 percent slope	Southern end of the Landfill located outside of documented waste fill 62 2 feet west of the access road to the Weaver Cove Public Boat Launch and west of utility poles 10W and 11W.	Location was hand augered on 7/10/98 and was confirmed as undisturbed NeB soil type with exception of plough layer at surface horizon. Review of historic aerial photographs support location as acceptable. Historic use of this area is still being researched at this time
2	Surface Samples BKG-SS06-NeB-0005 through BKG-SS10-NeB-0005 Subsurface Samples: BKG-SS06-NeB-XXXX through BKG-SS10-NeB-XXXX	Newport Silt Loam (NeB) - 3 to 8 percent slope	East of the MNLF gated entrance and east of Defense Highway 54 feet east and upslope of a fenceline 39 feet downslope and west of an overgrown dirt road. In a moderately wooded area of approximately 25 year growth.	Location was hand augered on 5/27/98 and 7/10/98 and was confirmed as undisturbed NeB soil type with exception of plough layer at surface horizon Review of historic aerial photographs support location as acceptable. Historic use of this area is still being researched at this time.
3	Surface Samples BKG-SS11-Mk-0005 through BKG-SS15-Mk-0005 Subsurface Samples BKG-SS11-Mk-XXXX through BKG-SS15-Mk-XXXX	Mantunuck Mucky Peat (Mk)	Dyer Island in Narrangansett Bay. Approximately 0 5 miles west of the MNLF coastline, partially submerged at high tide	No structure currently exists on Dyer Island. Historic use of this island is still being researched at this time.
Refer to Figure 3-1	Surface Samples BKG-SS16-Mk-0005 through BKG-SS20-Mk-0005 Subsurface Samples BKG-SS16-Mk-XXXX through BKG-SS20-Mk-XXXX	Mantunuck Mucky Peat (Mk)	Undeveloped property approximately four miles north of MNLF (as measured along the railroad) This area is a tidally flushed salt marsh and is south of the Mount Hope Bridge	This location requires access to private property. Location was hand augered on 7/10/98 and was confirmed as undisturbed Mk soil type.

Note: The subsurface samples with "-XXXX" in their designation will incorporate the depth interval once the sample is collected



File 1679 4.5

"Rite in the Rain®"

17925

All-Weather
FIELD NOTEBOOK
No. 351

Melville North LF, RI
Background Soil Study
CTO 172
Project # 1679

4 5/8" x 7" with 48 Numbered Pages

0850 Investigating the southern area of MNLF north of the Weaver Cove: Soil type is NeB

1st location

Newport series (Pittstown?)

0-8" Plough Layer A Phorizon possibly a reworked gravel Lt. olive brown sandy, mostly silt, trace

8" Darker band (< 1/4") organic layer - Brown

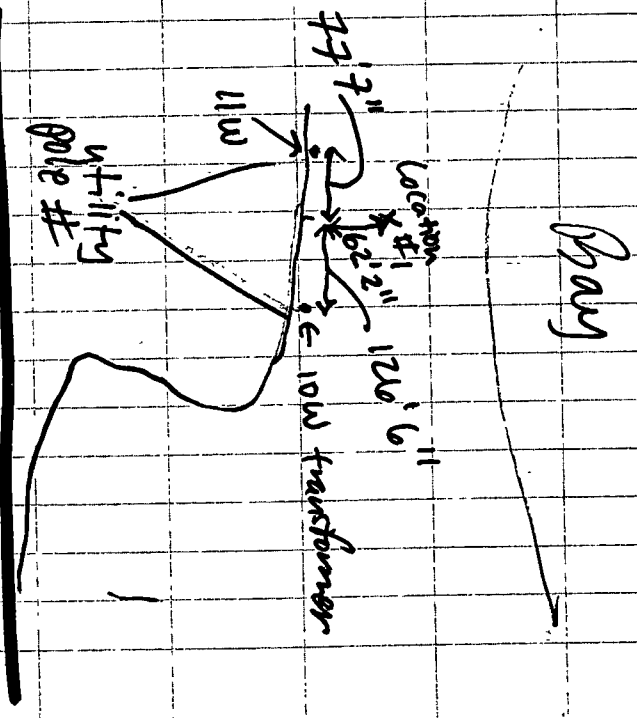
0-2" Dark Brown / Organic Brown fine root fiber mat, plough layer typical

8" - 12" same as 2" - 8"

12" Change to lighter gray color w/ oxidation indications of a temporary perched water

12" Till - cobble sized quartzite, mixed w/ silty sand, gravel, schist - grain size everything from silt up to gravel w/ chaners (soft platy rock)

Overall Note: Detected a ash-like odor emanating from hole - smells like a wet (fireplace) ash pile.



Location #2

Near the Mt. Hope bridge

Mussel Bed Shoal Rd. Just north of the old Lumber warehouse

Soil Type - Matunuck Series peat 1' - 18" to be classified

Peat

0 - 18" Thick peat layer over a mineral material (underlying horizon)

then starts increasing in mineral content

→ brown fibric peat w/ trace amount of sediment

> 12" increasing in sediment fine silt → gravel

9-29-98

1400 Onsite at Background Location 1 (Refer to Drawing 1-1 from WorkPlan W529813.3DF) - South of MMLF, north of Weaver Cove Public Boat Launch.
Personnel: Janet Pilgon
Kevin O'Neill
Weather: Sunny, ~70°F, light breeze, dry conditions (no rain w/in last 24 hours)
Decanning hand augers using DI water & alconox

1425 Called Melissa Griffin and informed her we were about to begin sampling at this location and will be meeting property owners at (O'Brien's) at MK (peat) location at 18:00.

1430 Collecting surface soil

9-29-98 (cont.)

Sample BKG-5501-NEB-0005. Screened opening of hole in ground at 0.5 feet - no readings on PID.

Note: Calibrate miniRAE PID Serial # 000650 - refer to cal logsheet.

1540 Augered to 2'8" and encountered very thin layer of a black tar-like or asphalt-roof-like material, crusty, shiny, oil-like appearance with a distinct petroleum-like odor. ~~Soil description just at this depth soil type transitioned to a~~

Soil description: refer to pgs. 3+4 same soil type as described for "1st location" - augering 10-12" from

Janet Pilla.

9-29-98 (cont.)

the hole that had been augered for 1st location.

1545 Augering another hole ~ 3.5' from 1st location.

Soil Description - at ~ 18" encountering gravel / till at ~ 1' encountered lighter gray at 2'3" encountered refusal (stone)

Abandoned hole and started augering 6" away. Also of note detected a very slight petroleum odor at a depth of 2'3" (when had to abandon hole).

1605 Encountered refusal again at 2'2".

Due to the petroleum odor and oil/asphalt-like material ~~at~~ encountered

Janet Pilla

9-29-98 (cont.)
at depth, have decided to abandon this area as a background location.

34 Porters Lane, Portsmouth (Map 11; Lot 14A)

(401) 683-3071

1830 Arrived at property located near Mt. Hope Bridge. Private property - granted access by Madelaine O'Brien who is present w/ us.

1838 Hand augering first location. Soil description: 0-2' silty peat (plant fiber, dark brown, hemic peat), 2' light gray silty sand trace / occasional gravel. 3.2½ Refusal. Composited subsurface sample from 0.5' to 3.2½ and surface sample from 2 inches to 0.5'.

1840 Collected sample BKG-SS01-MK-0005. Also collected a duplicate sample at this location. Refer to sample logsheet and chain-of-custody (COC).

Janet Pelletier

9-29-98 (cont.)

1843 Sample BKG-SS01-0532 ~~1100~~ was collected - the subsurface sample.

1850 Collected surface soil sample BKG-SS02-~~00~~MK-0005. Refer to sample logsheet and COC.

1855 Collected subsurface soil sample BKG-SS02-MK-0522

1905 Collected surface soil sample BKG-SS0~~3~~-0005.

1930 Collected subsurface soil sample BKG-SS03-0522

For the samples collected as previously noted, refer to their respective sample logsheet and the COC. All surface and subsurface soil samples were collected using a stainless steel hand bucket auger, disposable scoopulas, and stainless steel bowls (for mixing/compositing sample interval). Decon conducted between each sample station location.

Janet Pelletier

DRAFT FINAL
(NO FINAL)

Final

Background Soil Investigation

Melville North Landfill
Portsmouth, Rhode Island

Northern Division
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0172

November 1998

TETRA TECH NUS, INC.

3.0 FIELD INVESTIGATION ACTIVITIES

This section presents a description of the field investigation activities that were conducted as part of the background soil investigation for the MNLF Site and vicinity. The investigation activities included a reconnaissance survey with RIDEM to evaluate proposed background sampling locations, soil sampling and analysis of 20 background soil locations (plus QA/QC samples), and a global positioning system (GPS) survey of the background sample locations. The background soil sampling investigation was generally conducted in accordance with the Draft Final Work Plan (TtNUS, 1998), except as noted below.

As scoped in the Work Plan, background soil samples having a composition similar to the soil types that may have been found at the MNLF prior to landfilling activities were collected from surrounding areas at undisturbed locations determined to be free of influence from either the site or other non-uniformly distributed anthropogenic sources. Soil samples were collected from two soil types: the Newport Silt Loam and Matunuck Mucky Peat, as summarized in Table 3-1. Soil survey maps of the area are presented as Figures 3-1 and 3-2.

The objective stated in the approved Draft Final Work Plan was to obtain both surficial samples and shallow subsurface soil data to establish background concentrations of metals in the vicinity of the MNLF. Consistent with the Work Plan, samples were collected from the ground surface to the bottom of the vadose zone (or as deep as possible using hand augering techniques) at 20 locations. Where shallow refusals were met, multiple attempts were made to attempt to reach the bottom of the vadose zone. Two soil samples were collected from each sample location point: a surface sample (from the zero to 0.5 foot interval) and a subsurface sample (soil below the 0.5 foot depth). As indicated in Table 3-1, ten locations were in areas where the soil type is classified as the Matunuck Mucky Peat (BKG-SS01-MK through BKG-SS10-MK) and ten locations were in areas where the soil type is the Newport Silt Loam (BKG-SS01-NEB through BKG-SS10-NEB).

Soil samples were not collected from the two areas originally presented in the work plan targeting the Newport Silt Loam soil type.

- The Navy did not gain property access for the areas proposed east of the MNLF site;

- The area south of the MNLF site and north of the Weaver Cove Public Boat Launch was determined to be unacceptable by field personnel during the sampling event. A thin layer of black material with a petroleum-like odor was encountered while hand augering in this area.

Within each soil type, two general areas were selected for background soil sample collection. Areas which were sampled within the Newport Silt Loam soil type included: (1) the northern side of Lower Melville Pond, located approximately 0.8 miles north-northeast of MNLF; (2) the area west of the Melville Ponds Campground access road, located approximately 0.7 miles northeast of MNLF. Areas which were sampled within the Matunuck Mucky Peat soil type included: (1) the vicinity of the southern end of Mount Hope Bridge, located approximately 3.7 miles north-northeast of MNLF; (2) Dyer Island, located in Narragansett Bay, approximately 0.7 miles west-northwest of MNLF.

Consistent with the Work Plan, prior to collecting the soil samples, approximately the top 2 inches of the soil sample was removed from the location to limit the effects of potential pollutant sources such as automobile emissions, road runoff, or other common anthropogenic sources of soil contamination. Soil samples were collected by hand auger into a decontaminated stainless steel bowl and were homogenized using a stainless steel trowel and then transferred to the appropriate sample containers. All non-disposable sampling equipment that contacted the sample medium was decontaminated to prevent cross-contamination between sampling points, as specified in the Draft Final Work Plan. Field data were recorded on sample logsheets and in the field logbook. Appropriate chain-of-custody and sample handling and shipping procedures were adhered to, as detailed in the Work Plan.

All soil sampling locations were surveyed by TtNUS staff with GPS survey equipment (to sub-meter accuracy). General areas of background soil sample locations are presented in Figure 3-3. The surveyed sample location coordinates (northings/eastings) are presented in Appendix C.